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ABSTRACT

Questionnaires were completed by parents and fifth- and sixth-grade children (1,180 healthy, 151 chronically ill, 54 hyperactive, and 54 with severe vision or hearing impairments). The instruments were designed to measure three types of value: utility value (how important success at a task is for achieving future goals); attainment value (the degree that success on a task confirms one's values and identity); and intrinsic value (inherent enjoyment of or interest in a task). One-way and two-way analyses of variance, and planned comparisons were performed, with results computed for the group as a whole and for each sex separately. In general, results suggested a pattern whereby hyperactive Ss view academics as less useful and less important to their identity than the other groups. Chronically ill Ss for the most part paralleled the healthy Ss. Ss with severe vision and hearing deficits, especially the girls, consistently scored higher on the value constructs. Findings suggest that there may be differences in the extent to which children with health problems value what they are learning in school. Further, since belief in the usefulness of academic pursuits and their importance to self concept is associated with achievement behavior, such attitudes may be linked to lower achievement in chronically ill and hyperactive students. Three pages of references and numerous tables and graphs are included. (CL)

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# Perceived Value of Academic and Physical Tasks: A Comparison of Healthy and Chronically Ill Children

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This study takes a look at chronically ill children, hyperactive children, and children with severe vision and hearing deficits. I will define these terms as I have used them, since in a sense all of these children are chronically ill. To describe children with an ongoing illness which often requires medication, and may cause bodily upset, fatigue or pain, I have used the term chronically ill. Children with asthma, diabetes, cancer, seizure disorders, and arthritis are among those who would be included in this category. Children with severe vision and hearing deficits are categorized separately because these are problems which may impact on the ease of learning and functioning, but should not cause sickness or pain. Hyperactive children, although they may indeed have organic problems, and may be on medication, are a qualitatively different group from the others. They are not likely to feel sick or be restricted physically as a direct result of the hyperactive condition; rather, they are likely to have problems focusing energy and attention.

Research results regarding adjustment and achievement in chronically ill children are mixed. A number of studies have examined intelligence and achievement in normal and chronically ill populations and found that while intelligence scores do not differ significantly, chronically ill children are much more likely to be performing below their level of ability. This has been found among epileptics (Green and Hartlage, 1971; Richardson and

Friedman, 1974), diabetics (McGavin, Schultz, Peden and Bowen, 1940), asthmatics, hemopheliacs, children with chronic heart disease (Travis, 1976), and children with cystic fibrosis (Lawler, 1966). In some cases, the achievement deficiency is specific to one domain. For example, reading achievement was lower on the whole in two studies of diabetics (Gath, Smith and Baum, 1980; Pless and Roghman, 1971) while performance in arithmetic was most impaired in another study of children with seizure disorders (Green and Hartlage, 1971).

Some researchers take issue with the idea that chronically ill children in general tend toward underachievement, and make the qualification that it is those children in poor control of their disease who show inadequate performance. In reviewing the literature, however, it was not altogether clear when and why chronically ill children were performing less well than their peers, and less well than their own ability would seem to indicate they are capable of.

What might be the possible causes of lowered performance in the academic setting? A high rate of absence from school leading to discontinuity of school experience is one of the most common and obvious factors affecting the chronically ill child. Baird and Ashcroft (1982) emphasize the importance of continuity in the school experience in order to achieve one's potential. Fatigue, sluggishness, and difficulty in concentrating as a result of the disease

or its treatment can also interfere with school performance. Medication for asthma, for example, lowers concentration and increases restlessness (Ballard, 1976). School performance of diabetics and children with chronic heart disease can be hindered by varying energy levels (Mearig, 1982). Reactions to leukemia or its treatment can make it difficult to concentrate on schoolwork. Pain, not uncommon in children with chronic kidney disease, leukemia and arthritis, may also distract from attention to academic tasks.

Hyperactivity has, in recent years, become a common childhood disorder (Schworm, 1982). From 3 - 20% of children in school are labelled hyperactive, according to Whalen and Henker's (1976) assessment. The definition of hyperactivity varies, but the popular conception usually includes overactivity, distractibility, and inability to focus attention.

Hyperactivity is also ongoing and may require medication, but it does not necessarily mean being physically sick or restricted. As with chronic illness, there is controversy over the extent of underachievement and maladjustment in this group (Gadow, 1983). Often there is no difference in measures of intelligence or achievement. However, attention, memory and learning seem to be consistently lower. Much evidence indicates that these children suffer academic difficulties primarily as a result of inattentiveness, distractibility, impulsivity, and

discipline problems. Norris (1982) suggests that an inability to selectively attend to important stimuli leads these children to overrespond to stimuli irrelevant to tasks.

There is also disagreement over the degree to which medications administered to hyperactive children benefit them in terms of school performance. Uncertainty about their helpfulness, especially over the long term (Gadow, 1983; Whalen and Henker, 1976), raises the question of what the real causes of academic underachievement in this group are. Cunningham and Barkley (1978) found that interventions which increased the child's success in academics also reduced the frustration and anxiety associated with repeated failure, and consequently improved classroom performance. This suggests that more is at work here than mere physiological upset.

Studies done with chronically ill children, and to some extent with hyperactive children, tend to focus on global measures of achievement and well-being. Chronically ill children have been compared with their healthy peers on such measures as intelligence (Haggerty, Roghmann and Pless, 1975; Lawler, 1966; McGavin Schultz, Peden and Bowen, 1940), achievement (Daniel, 1977; Gath et al., 1980; Green and Hartlage, 1971; Richardson and Friedman, 1974; Walker and Jacobs, 1983) and adjustment in the classroom (Sullivan, 1979; Tattersall and Lowe, 1981), behavioral problems

(Battle, 1975; Gath et al., 1980; Koski, 1969; Richardson and Friedman, 1974; Sultz, Schlesinger, Mosher and Feldman, 1972), self-esteem (Baird and Ashcroft, 1982; Hauser, Jacobsen, Noam and Powers, 1983; Hoffman, Guthrie, Speelman, and Childs, 1982; Heilveil and Schimmel, 1982), unhappiness and depression (Baird and Ashcroft, 1982; Daniel, 1977; Battle, 1975; Grey, Gemel and Tamborlane, 1980; Sullivan, 1978; Sullivan, 1979), ego development (Hauser, Pollets, Turner, Jacobsen, Powers and Noam, 1982), and anxiety (Bennett and Ward, 1977; Koski, 1969). The results yield an inconsistent picture of whether unhealthy children are disadvantaged on any or all of these measures.

Johnson (1980) points out that one problem with the majority of existing studies may be this use of global constructs. Such measures encompass a variety of experiences and beliefs. Research is sparse or nonexistent when it comes to assessing specific measures of school adjustment. Nadar and Mahan (1974) warn that just looking at school performance (and its deviation from ability level) is not enough. It is important to study how these children feel about being in school, and about what they are learning.

The need to examine attitudes more closely makes sense in light of existing models of achievement. The present study was designed to look at the value component of the "expectancy - value" achievement model. Eccles (1983) has differentiated the value component into 3 types of value.

Utility value depends on future goals, and how important success at a task is for achieving those goals. Attainment value refers to the degree that success on a task confirms one's values and identity. Intrinsic value is inherent enjoyment of or interest in a task.

It was hypothesized that possible negative experiences in the classroom, as a direct result of illness, or due to lack of understanding by teachers and peers, might influence the value placed on academic pursuits. Misunderstanding of the problem might result in inadequate counseling, or lowered expectations on the part of others (Ludvigsson, 1976; Travis, 1976). Poor performance which may have, at times, occurred due to illness related factors, and possible criticism or impatience on the part of a parent or teacher when one is not alert enough, or attending well, may arouse anxiety and negative perception of school. This may lessen enjoyment of academics, as well as cause lower value to be placed on these activities in regard to one's identity. By understanding the more subtle ways in which these children are different, or not different, from healthy children, progress can be made toward understanding whatever deficiencies might exist.

## METHOD

### Subjects

The subjects in this study were 5th and 6th graders. There are two advantages to focusing on early adolescence.

First, issues of task value are likely to be increasing in salience at this time. The child is beginning to establish her own identity and values and to look toward the future. In addition, metabolic changes of puberty may compound disease states. 1439 students from 12 school districts in southeastern Michigan, participated in this study. The total sample consisted of 717 girls and 722 boys. These students came mainly from white, middle class families. Data were also collected from the parents of participating students. These subjects had already agreed to participate in another, larger study of achievement attitudes and beliefs in early adolescence.

A total of 2018 children and parents filled out questionnaires. Children with physical problems were identified through one item on the parent's questionnaire. This item provided a list of possible health problems for the parent to check, as well as a place for the parent to fill in any physical problem not listed. Medical validity of the parent report was not checked, under the assumption that labelling is just as important as medical reality in terms of effect on developing self-perception achievement attitudes. Students not labelled with any physical problem - chronic or otherwise - were used as the healthy group. Those students identified as having a physical problem which did not meet the present criteria for a chronic illness, hyperactivity, or severe vision or hearing deficits were excluded from further analyses.

The final sample included 1180 healthy, 151 chronically ill, and 54 hyperactive children, and 54 children with severe vision or hearing impairments. Table 1 gives the breakdown of males and females within each group. The chronically ill children in this study were asthmatics diabetics, and children with seizure disorders, arthritis, and congenital heart disease.

The questionnaire items used to assess utility, attainment and intrinsic value are in Appendix A, along with the coefficients of internal consistency. Value was assessed in two academic domains - math and English. Value of sports activities was also included, as it was expected that this might contrast to academic value in different ways for the various groups.

## RESULTS AND DISCUSSION

One-way and two-way analyses of variance, and planned comparisons, were used to analyze the data. Results were computed for the group as a whole and for each sex separately. In several cases the effects differ by sex.

In general, results suggest a pattern whereby hyperactive children see academics as less useful and less important to their identity than the other groups. Chronically ill children sometimes tend to be negatively affected, but for the most part look very similar to the healthy group. Children with severe vision and hearing deficits, especially among the girls, consistently turn up

higher on these constructs. The results of sports usefulness and importance to self-perception show a different pattern, with hyperactive children valuing these activities most, and children with chronic illness and vision and hearing deficits valuing them least (see Tables 2 through 5 for means, standard deviations, and significance levels).

Figure 1 shows the pattern just described for the utility value of math. It comes out very strongly among girls, and less so for boys, leading to a significant health by sex interaction, $F(3,1423)=3.14, p=.02$. In regard to the utility value of English, girls again show the same pattern; among boys, the only significant difference is between the healthy (M=5.15) and chronically ill (M=4.75, see Figure 2). The health by sex interaction is again significant, $F(3,1416)=3.95$, $p=,008$. Figure 3 shows the results for utility value of sports. Chronically ill boys see sports as less useful (M=5.37) than healthy (M=5.70) or hyperactive (M=6.03) boys. No differences among girls were found. In the group as a whole, hyperactive children (M=5.77) show the highest valuing of sports.

Figures 4 through 6 illustrate the results for attainment value. In math, differences for girls occur in the same direction as for utility value, but the only differences which reach significance are between girls with vision and hearing problems (M=6.62) and the healthy (M=6.12) and hyperactive (M=5.71) groups. The differences

among girls seem to be contributing to the differences found in the group as a whole. In English, the same pattern occurs. In sports, only chronically ill girls (M=4.85) and healthy girls (M=5.34) are significantly different from each other.

Whereas the usefulness of academic activities and their importance to one's identity showed differences between groups, results of intrinsic value - or enjoyment and interest - did not. Significant effects of health status were found only for enjoyment of sports among girls. Girls with vision or hearing problems (M=5.00) enjoy sports less than other girls, and this contributes to the significance of the overall result ($F(3,1405)=3.59$, $p=.01$). Figures 7 through 9 illustrate the findings for intrinsic value in the three domains.

General liking of school was also assessed. Girls with vision or hearing problems (M=6.37) like school more than healthy (M=5.59) or chronically ill (M=5.63) girls (see Figure 10).

This study indicates that there may be differences in the extent to which children with health problems value what they are learning in school. Despite equal interest and enjoyment, hyperactive children especially, and chronically ill children to a lesser extent, see math and English as less useful and less important to their own self-concept. The effect seems to be stronger for girls than for boys;

indeed, in some cases boys show no effect of health status. The strongest effects also appear in regard to English, lending support to the idea that differences may be domain specific. Since belief in the usefulness of academic pursuits and their importance to self-concept are important mediators of achievement behavior, these results suggest that part of the reason for lower achievement in chronically ill and hyperactive groups may lie in such attitudes. Parents, teachers, and other adults dealing with children in either of these groups should be aware of the possible need to communicate more directly the value of subjects such as math and English, in terms of individual benefit and future gain.

This is especially important during the early adolescent period, since it is a time when children are beginning to make choices and commitments that affect future opportunities. For instance, in junior high school children are often tracked by ability for the first time, and teachers readily admit that these initial placements have long range consequences for how far the child goes in the subject in question. If lowered value leads to less effort, performance may drop despite ability; decisions made on the basis of that performance by self and others may become increasingly hard to revoke after the elementary school years.

This study also demonstrates the need to look in more depth at feelings and attitudes about specific aspects of

school in order to better understand children with physical problems. Sex differences should also be considered closely, as the present data suggest that boys and girls do not always react in the same manner to health problems.

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TABLE 1

BREAKDOWN OF SAMPLE BY HEALTH PROBLEM AND SEX

| Sex | $N_{total}$ | $N_{healthy}$ | $N_{chronic}$ | $N_{hyperactive}$ | $N_{vis/hear}$ |
|---|---|---|---|---|---|
| Girls | 717 | 612 | 62 | 13 | 30 |
| Boys | 722 | 568 | 89 | 41 | 24 |
| Total | 1439 | 1180 | 151 | 54 | 54 |

TABLE 2

HEALTH STATUS EFFECTS ON VALUE ITEMS FOR ALL CHILDREN

| Construct | $M_h$ (SD) | $M_c$ (SD) | $M_{hy}$ (SD) | $M_{vh}$ (SD) | df | F | p |
|---|---|---|---|---|---|---|---|
| Utility Value of Math | 6.04(1.01) | 6.04(0.95) | 5.62(1.01) | 6.16(0.95) | 3,1427 | 3.43 | .02 |
| Utility Value of English | 5.35(1.38) | 5.05(1.37) | 4.62(1.68) | 5.47(1.41) | 3,1420 | 6.60 | .0002 |
| Utility Value of Sports | 5.35(1.44) | 5.20(1.58) | 5.77(1.28) | 5.23(1.45) | 3,1400 | 2.16 | .09 |
| Attainment Value of Math | 6.03(0.97) | 6.04(0.94) | 5.77(1.12) | 6.28(0.89) | 3,1429 | 2.56 | .05 |
| Attainment Value of English | 5.64(1.20) | 5.38(1.25) | 4.97(1.43) | 5.77(1.12) | 3,1405 | 7.23 | .0001 |
| Attainment Value of Sports | 5.52(1.40) | 5.33(1.39) | 5.55(1.40) | 5.37(1.41) | 3,1392 | n.s. | n.s. |
| Intrinsic Value of Math | 4.76(1.69) | 4.87(1.65) | 4.72(1.94) | 5.07(1.73) | 3,1419 | n.s. | n.s. |
| Intrinsic Value of English | 4.12(1.91) | 3.88(1.75) | 3.90(2.01) | 4.45(1.95) | 3,1419 | n.s. | n.s. |
| Intrinsic Value of Sports | 6.14(1.51) | 6.09(1.59) | 6.43(1.35) | 5.51(2.07) | 3,1405 | 3.59 | .01 |
| Liking of School | 5.33(1.61) | 5.40(1.54) | 5.04(1.66) | 5.98(1.45) | 3,1306 | 3.41 | .02 |

TABLE 3

HEALTH STATUS EFFECTS ON VALUE ITEMS FOR GIRLS

| Construct | $M_h$ (SD) | $M_c$ (SD) | $M_{hy}$ (SD) | $M_{vh}$ (SD) | df | F | p |
|---|---|---|---|---|---|---|---|
| Utility Value of Math | 6.06(1.03) | 6.25(0.79) | 5.48(0.98) | 6.48(0.71) | 3,713 | 3.81 | .01 |
| Utility Value of English | 5.52(1.33) | 5.47(1.23) | 4.15(1.39) | 6.00(1.10) | 3,706 | 6.09 | .0004 |
| Utility Value of Sports | 5.02(1.50) | 4.96(1.44) | 4.95(1.56) | 5.04(2.58) | 3,697 | n.s. | n.s. |
| Attainment Value of Math | 6.12(0.92) | 6.15(0.90) | 5.70(0.49) | 6.62(0.47) | 3,711 | 3.89 | .009 |
| Attainment Value of English | 5.86(1.09) | 5.62(1.20) | 4.86(0.72) | 5.96(1.05) | 3,700 | 4.20 | .006 |
| Attainment Value of Sports | 5.34(1.47) | 4.85(1.35) | 5.19(1.32) | 5.13(1.63) | 3,691 | 2.21 | .09 |
| Intrinsic Value of Math | 4.74(1.66) | 5.06(1.59) | 4.65(1.66) | 5.25(1.65) | 3,708 | n.s. | n.s. |
| Intrinsic Value of English | 4.38(1.92) | 4.34(1.71) | 3.88(1.71) | 4.98(1.95) | 3,706 | n.s. | n.s. |
| Intrinsic Value of Sports | 5.82(1.67) | 5.84(1.59) | 6.00(1.29) | 5.00(2.12) | 3,699 | 2.36 | .07 |
| Liking of School | 5.59(1.50) | 5.63(1.39) | 5.77(1.30) | 6.37(1.13) | 3,653 | 2.63 | .05 |

TABLE 4

HEALTH STATUS EFFECTS ON VALUE ITEMS FOR BOYS

| Construct | $M_h$ (SD) | $M_c$ (SD) | $M_{hy}$ (SD) | $M_{vh}$ (SD) | df | F | p |
|---|---|---|---|---|---|---|---|
| Utility Value of Math | 6.02(0.98) | 5.88(1.02) | 5.66(1.03) | 5.74(1.08) | 3,710 | 2.34 | .07 |
| Utility Value of English | 5.15(1.41) | 4.75(1.40) | 4.77(1.75) | 4.81(1.50) | 3,710 | 2.95 | .03 |
| Utility Value of Sports | 5.70(1.28) | 5.37(1.66) | 6.03(1.07) | 5.46(1.22) | 3,699 | 2.75 | .04 |
| Attainment Value of Math | 5.94(1.01) | 5.96(0.96) | 5.79(1.26) | 5.87(1.10) | 3,714 | n.s. | n.s. |
| Attainment Value of English | 5.41(1.26) | 5.20(1.27) | 5.01(1.59) | 5.52(1.19) | 3,701 | n.s. | n.s. |
| Attainment Value of Sports | 5.72(1.30) | 5.67(1.33) | 5.66(1.42) | 5.68(1.01) | 3,697 | n.s. | n.s. |
| Intrinsic Value of Math | 4.79(1.73) | 4.74(1.68) | 4.74(2.04) | 4.85(1.84) | 3,707 | n.s. | n.s. |
| Intrinsic Value of English | 3.83(1.85) | 3.56(1.72) | 3.90(2.12) | 3.79(1.76) | 3,709 | n.s. | n.s. |
| Intrinsic Value of Sports | 6.50(1.24) | 6.26(1.57) | 6.56(1.36) | 6.17(1.83) | 3,702 | n.s. | n.s. |
| Liking of School | 5.05(1.67) | 5.23(1.62) | 4.79(1.70) | 5.43(1.69) | 3,649 | n.s. | n.s. |

TABLE 5

MEANS AND SDs FOR SIGNIFICANT INTERACTIONS BETWEEN HEALTH AND SEX

| Mean and SD | Attainment Value/Eng. | Intrinsic Value/Eng. | Liking of School |
|---|---|---|---|
| $M_{hf}$ | 5.86(1.09) | 5.82(1.67) | 5.59(1.51) |
| $M_{hm}$ | 5.41(1.27) | 6.50(1.24) | 5.04(1.67) |
| $M_{cf}$ | 5.62(1.20) | 5.84(1.59) | 5.63(1.39) |
| $M_{cm}$ | 5.20(1.27) | 6.26(1.57) | 5.23(1.62) |
| $M_{hyf}$ | 4.86(0.72) | 6.00(1.29) | 5.77(1.30) |
| $M_{hym}$ | 5.01(1.59) | 6.56(1.36) | 4.79(1.70) |
| $M_{vhf}$ | 5.96(1.05) | 5.00(2.12) | 6.37(1.13) |
| $M_{vhm}$ | 5.52(1.19) | 6.17(1.85) | 5.43(1.69) |

For girls:

Overall - p=.01
H > HY - p=.04
CI > HY - p=.01
VH > HY - p=.003
VH > H - p=.03

For boys:

Overall - p=.07
H > HY - p=.03

Combined group:

Overall - p=.02
H > HY - p=.002
CI > HY - p=.008
VH > HY - p=.005

Health Status X Sex p= .02

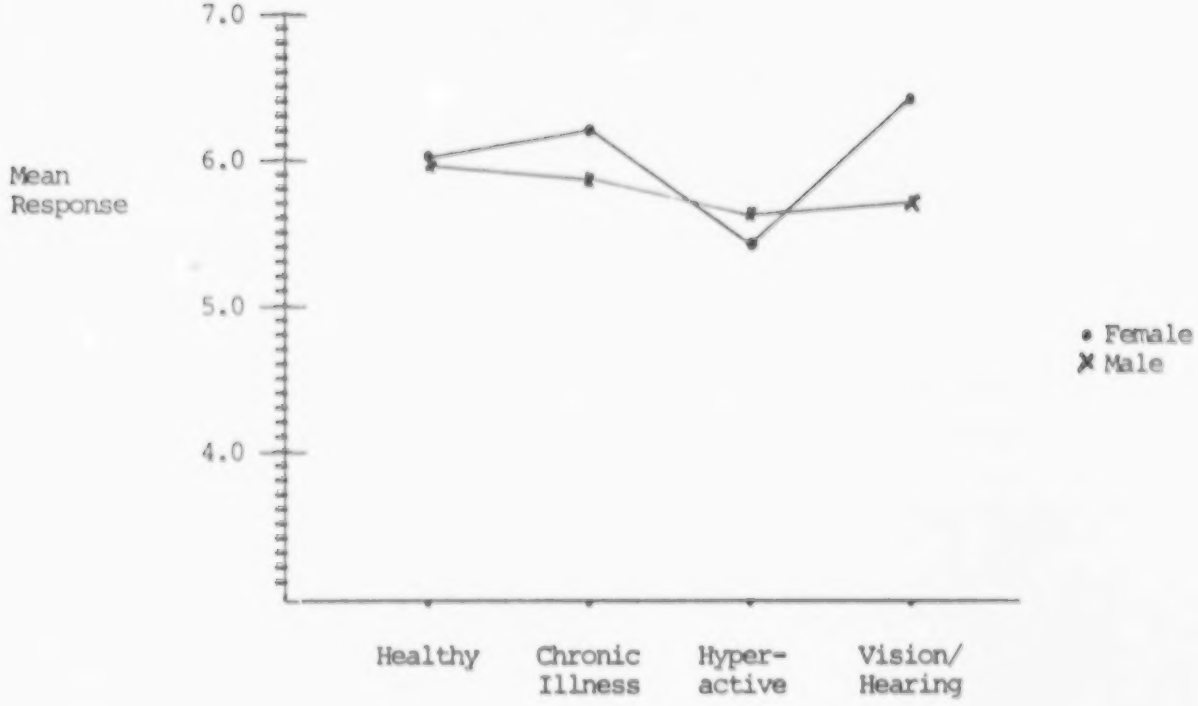


Fig. 1. Effect of health status on utility value of math

For girls:

Overall - p=.0004
H > HY - p=.0002
CI > HY - p=.001
VH > HY - p=.0000
VH > H - p=.05
VH > CI - p=.07

For boys:

Overall - p=.03
H > CI - p=.01

Combined group:

Overall - p=.0002
H > CI - p=.01
H > HY - p=.0002
CI > HY - p=.05
VH > HY - p=.002
VH > CI - p=.06

Health Status X Sex p=.008

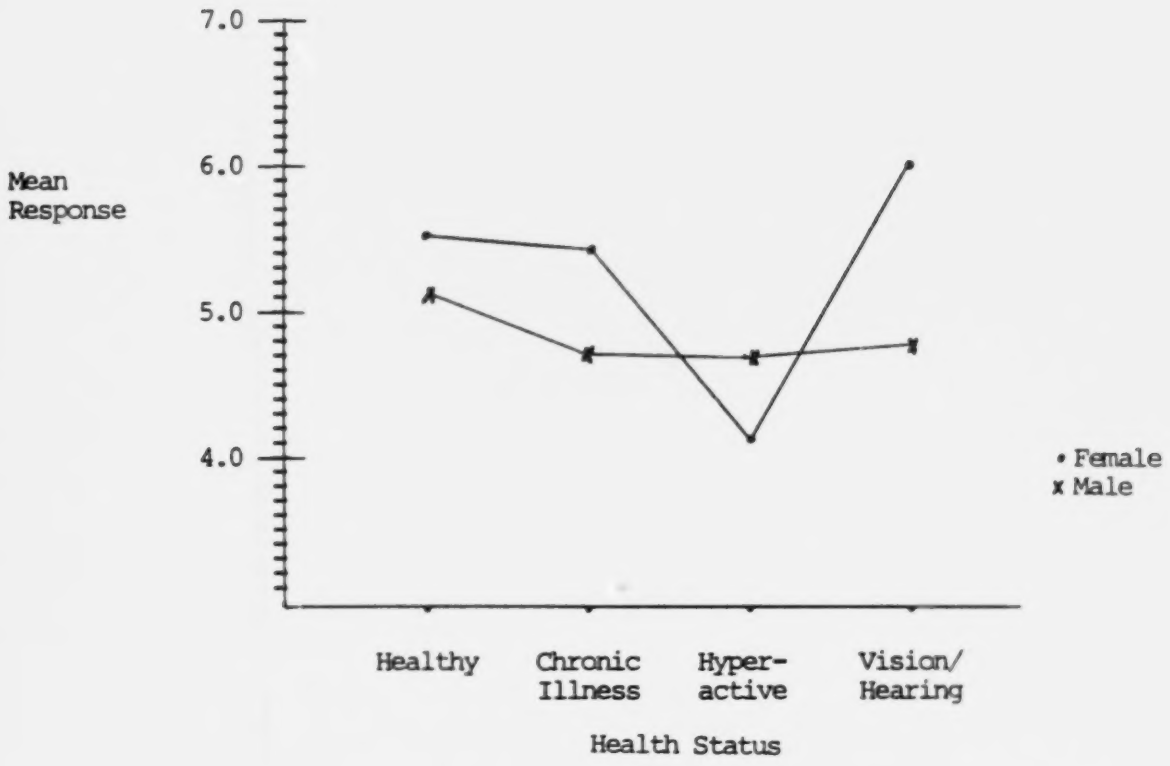


Fig. 2. Effect of health status on utility value of English

| For girls: | For boys: | Combined group: |
|---|---|---|
| N.S. | Overall - p=.04<br>H > CI - p=.03<br>HY > CI - p=.009<br>HY > VH - p=.10 | Overall - p=.09<br>HY > H - p=.04<br>HY > CI - p=.01<br>HY > VH - p=.05 |

Health Status X Sex p=N.S.

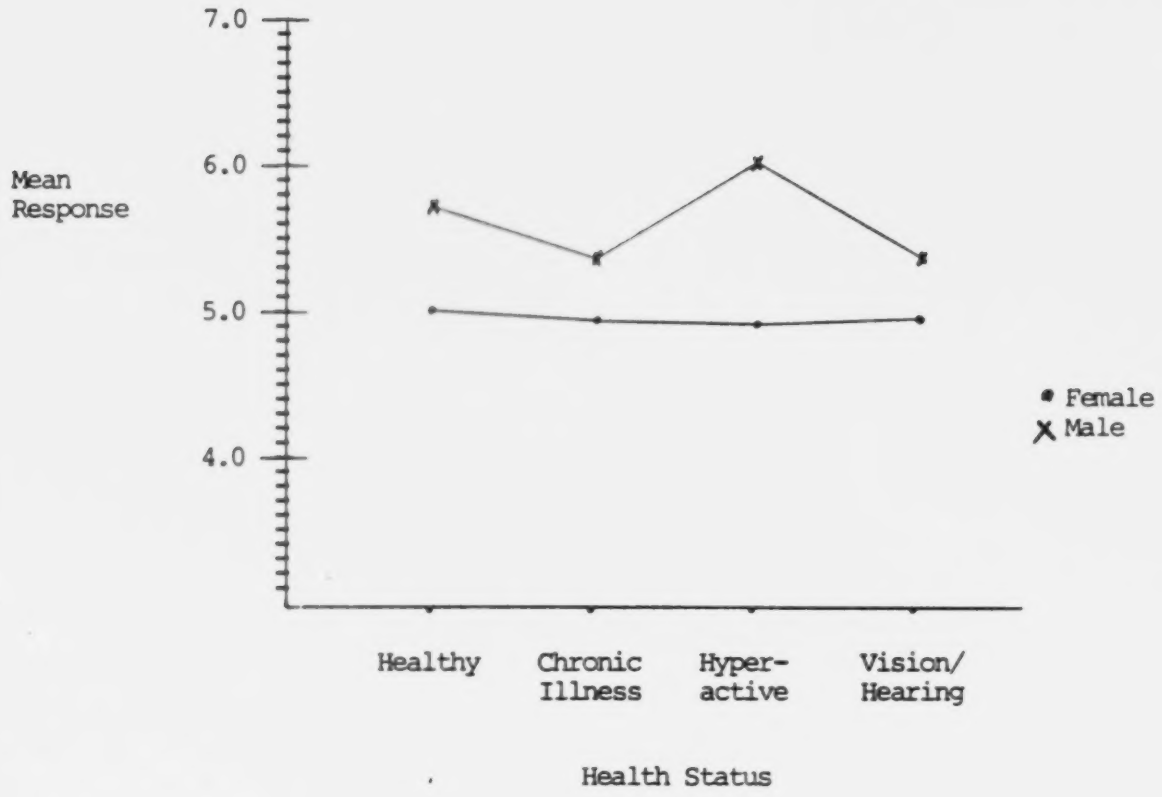


Fig. 3. Effect of health status on utility value of sports

For girls:

Overall - p=.009
VH > H - p=.004
VH > HY - p=.002

For boys:

N.S.

Combined group:

Overall - p=.05
H > HY - p=.05
VH > HY - p=.006
VH > H - p=.06
CI > HY - p=.07

Health Status X Sex p=N.S.

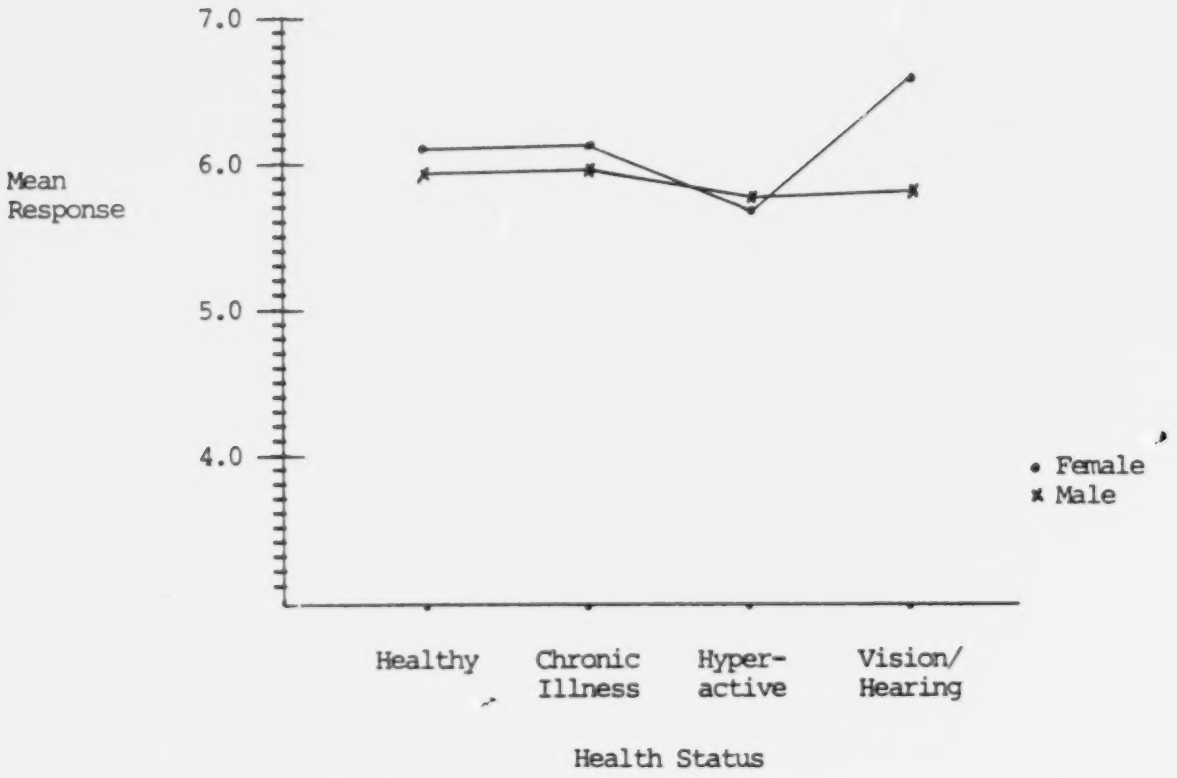


Fig. 4. Effect of health status on attainment value of math

For girls:

Overall - p=.006
H > HY - p=.002
CI > HY - p=.03
VH > HY - p=.003

For boys:

N.S.

Combined group:

Overall - p=.0001
H > CI - p=.01
H > HY - p=.0001
CI > HY - p=.04
VH > HY - p=.0008
VH > CI - p=.04

Health Status X Sex p=N.S.

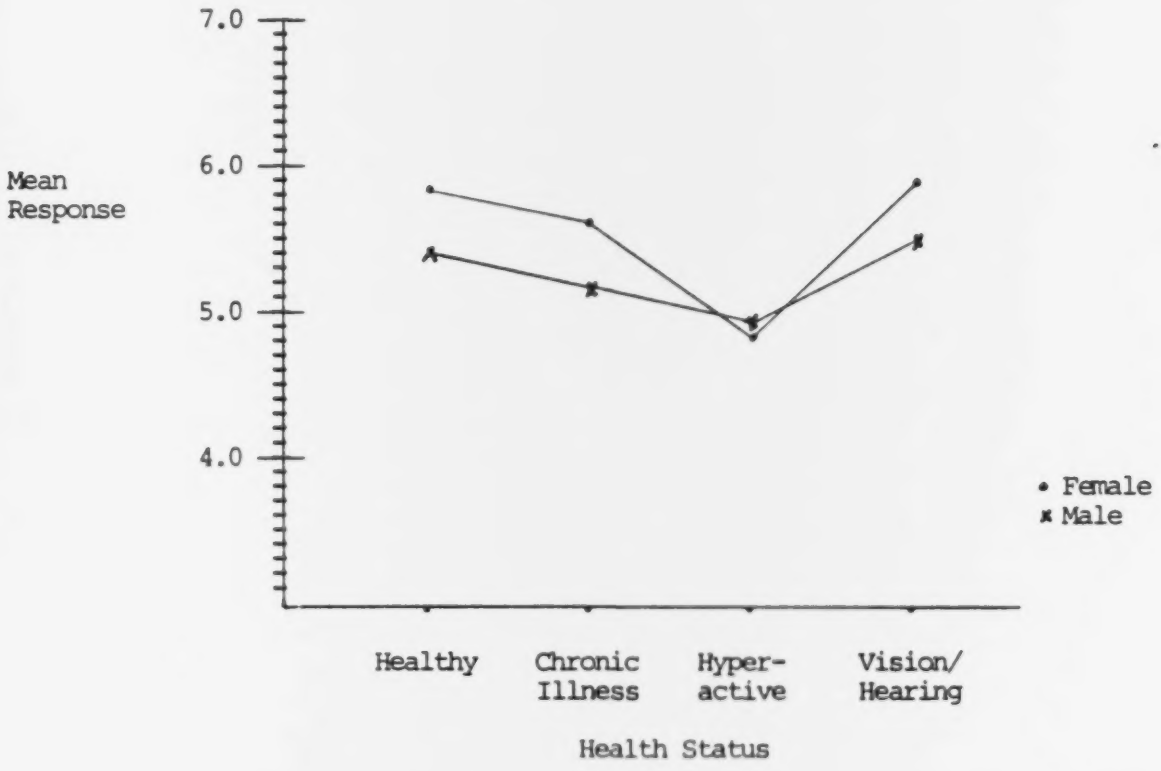


Fig. 5. Effect of health status on attainment value of English

| For girls: | For boys: | Combined group: |
|---|---|---|
| Overall - p=.09<br>H > CI - p=.01 | N.S. | N.S. |

Health Status X Sex p=N.S.

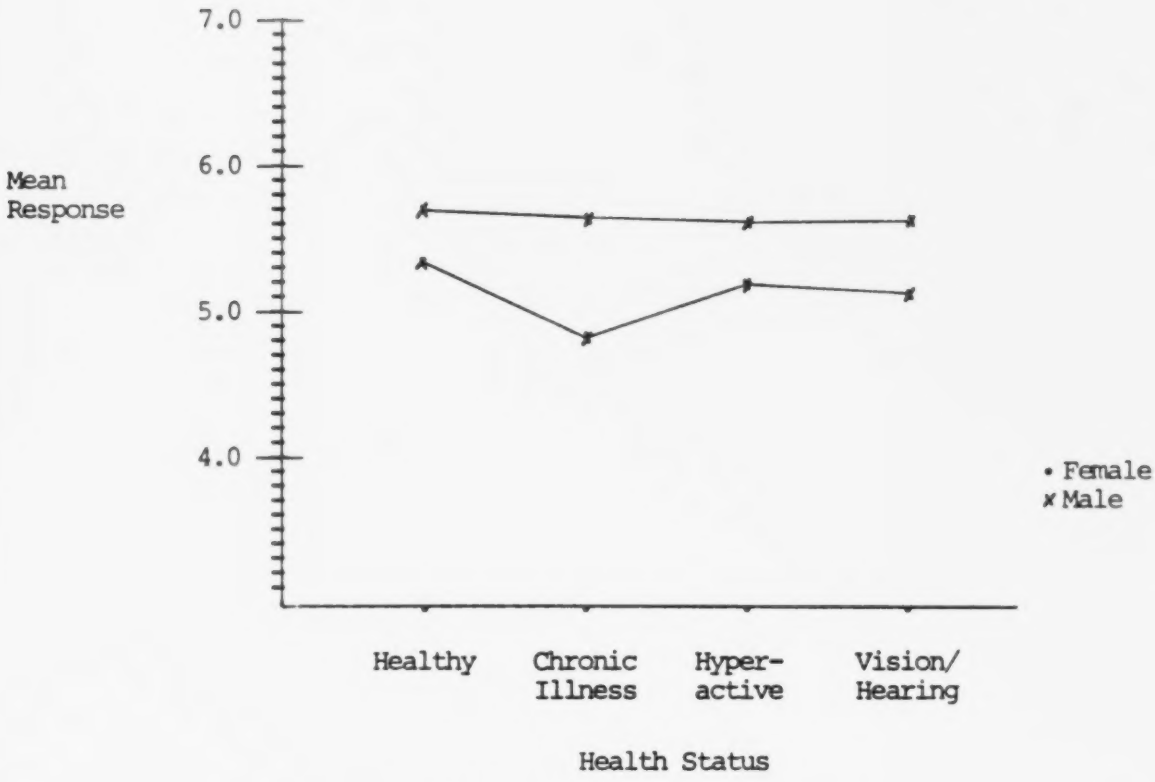


Fig. 6. Effect of health status on attainment value of sports

| For girls: | For boys: | Combined group: |
|---|---|---|
| N.S. | N.S. | N.S. |

Health Status X Sex p=N.S.

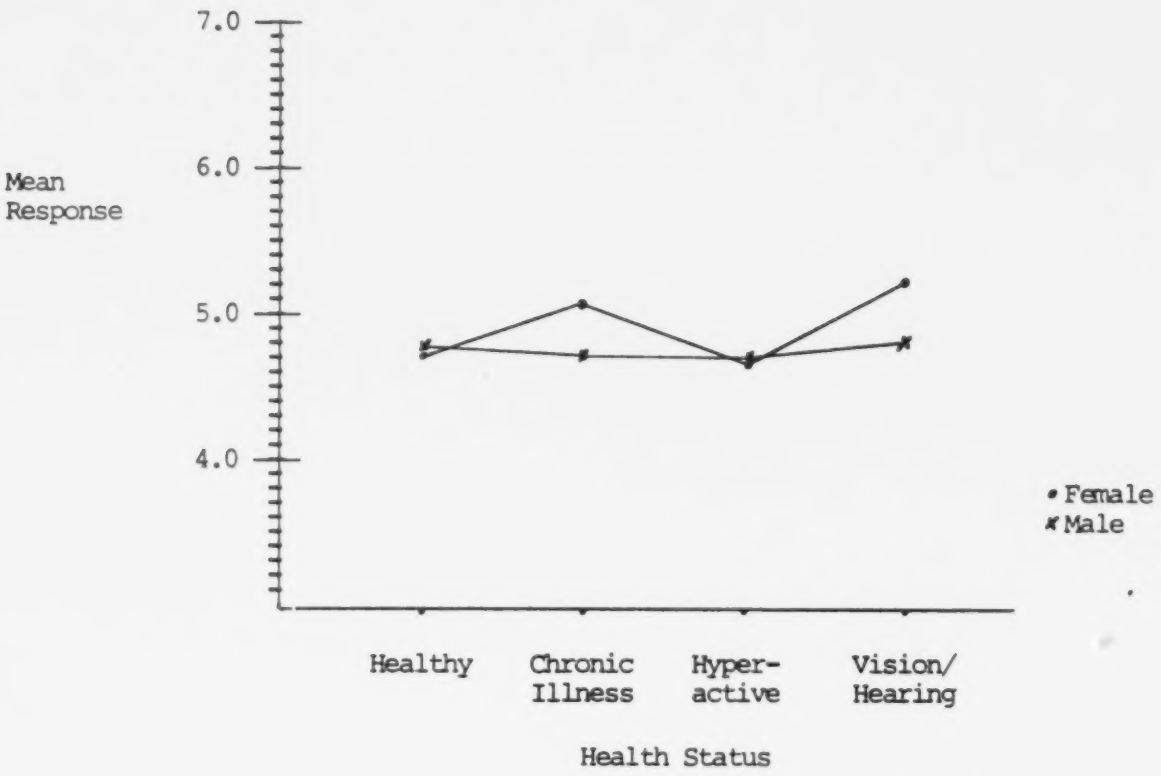


Fig. 7. Effect of health status on intrinsic value of math

For girls: N.S.

For boys: N.S.

Combined group: N.S.

Health Status X Sex p=N.S.

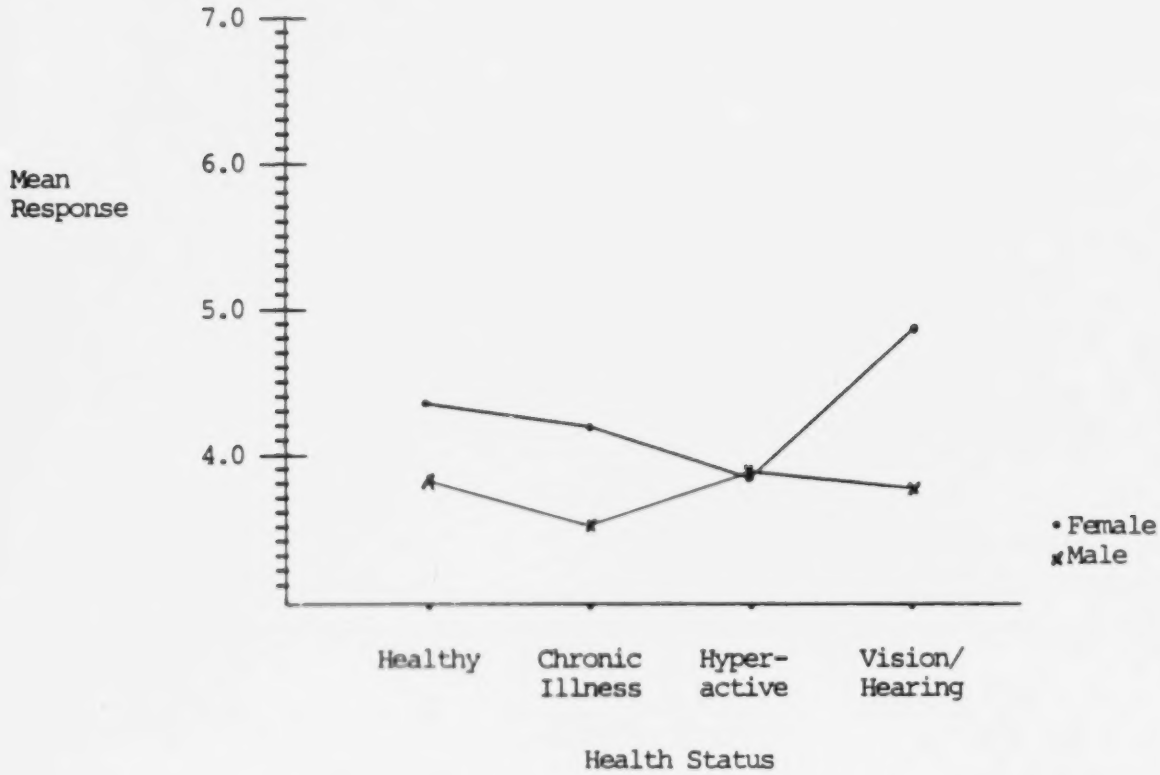


Fig. 8. Effect of health status on intrinsic value of English

For girls:

Overall - p=.07
H > VH - p=.009
CI > VH - p=.03
HY > VH - p=.07

For boys:

N.S.

Combined group:

Overall - p=.01
H > VH - p=.003
CI > VH - p=.02
HY > VH - p=.002

Health Status X Sex p=N.S.

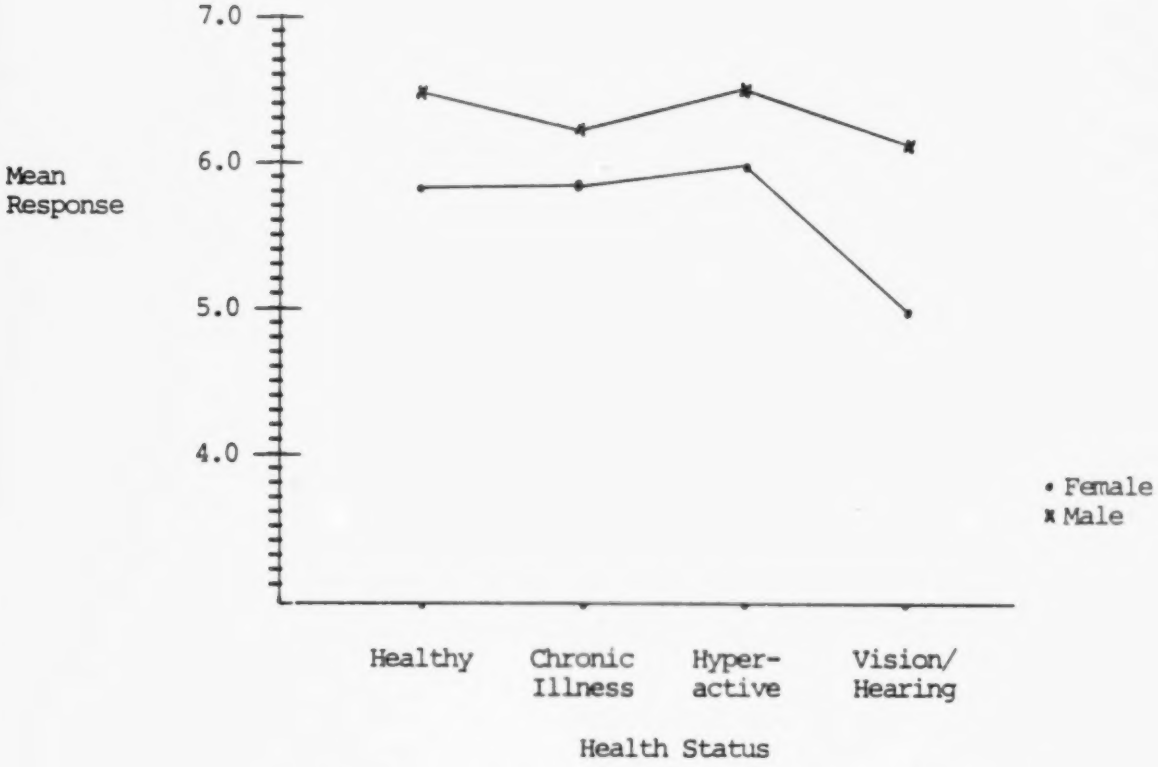


Fig. 9 . Effect of health status on intrinsic value of sports

For girls:

Overall - p=.05
VH > H - p=.005
VH > CI - p=.03

For boys:

N.S.

Combined group:

Overall - p=.02
VH > H - p=.005
VH > CI - p=.03
VH > HY - p=.003

Health Status X Sex p=N.S.

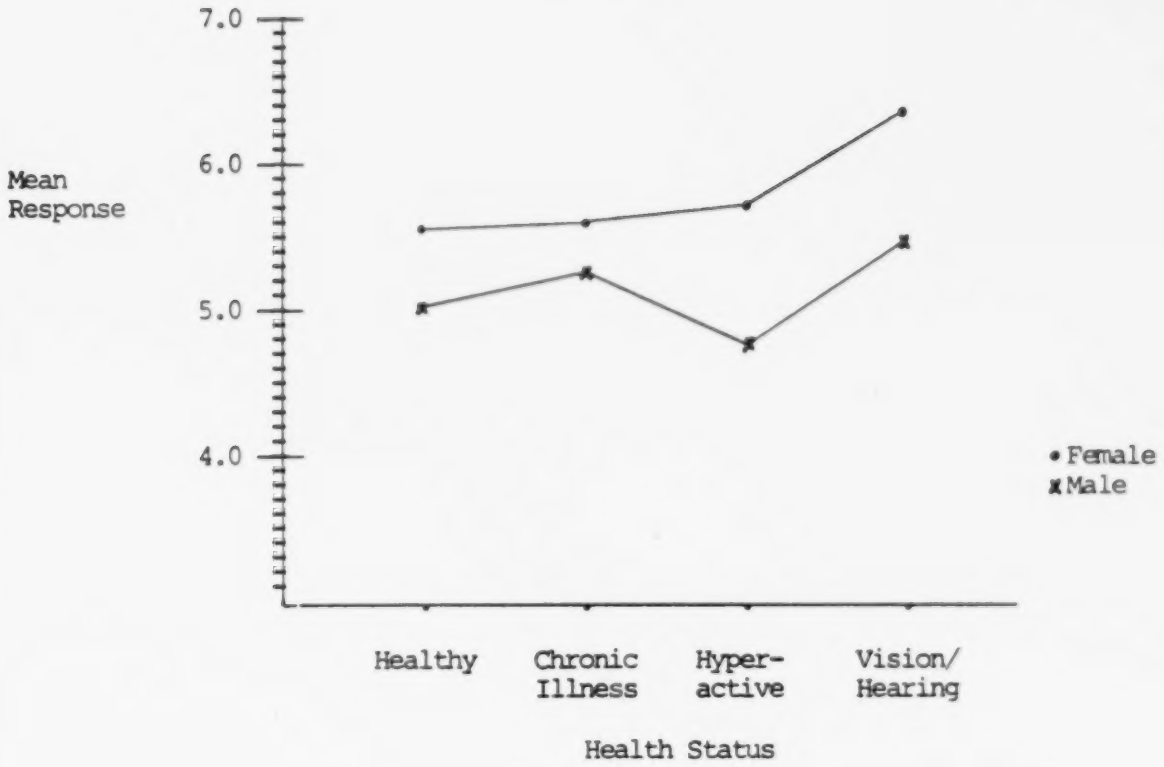


Fig. 10. Effect of health status on liking of school

## APPENDIX A

### Reliability Coefficients for Composites

| Scale Items | Alpha |
|---|---|
| Expectancies in Math<br>How well do you think you will do in math this year?<br>How successful do you think you'd be in a career that required mathematical ability? | .76 |
| Expectancies in English<br>How well do you think you will do in English this year?<br>How successful do you think you'd be in a career that required English ability? | .79 |
| Expectancies in Sports<br>How well do you think you will do in sports this year?<br>How successful do you think you'd be in a career that required athletic ability?<br>How well do you think you will do in sports in high school? | .89 |
| Locus of Control in Math<br>Anyone can be good at math if they work hard enough.<br>Anyone could do well in math if they really wanted to.<br>I can be good at any type of math if I work on it hard enough.<br>I could learn to do any type of math problem if I really wanted to. | .74 |
| Locus of Control in English<br>Anyone can be good at English if they work hard enough.<br>Anyone could do well in English if they really wanted to.<br>I can be good at any type of English if I work on it hard enough.<br>I could learn to do any type of English problem if I really wanted to. | .86 |
| Locus of Control in Sports<br>I could be good at any sport if I really wanted to.<br>I can be good at any sport if I work hard hard enough.<br>Anyone could be a good athlete if they | .74 |

really wanted to be.

Utility Value of Math .77
In general, how useful is what you learn in math?
How useful do you think the math you are learning will be for what you want to do after you graduate and go to work?
Is the amount of effort it will take to do well in math this year worthwhile to you?
How useful do you think high school math will be for what you want to do after you graduate and go to work?

Utility Value of English .80
In general, how useful is what you learn in English?
How useful do you think the English you are learning will be for what you want to do after you graduate and go to work?
Is the amount of effort it will take to do well in English this year worthwhile to you?

Utility Value of Sports .84
In general, how useful is it to be good at sports?
In your daily life, how useful are the things you've learned while playing sports?
Is the amount of effort it will take to do well in math this year worthwhile to you?

Attainment Value of Math .84
For me, being good at math is:
not at all important - very important
Doing better in math than I have done before is important to me.
Trying harder in math than I have tried before is important to me.
Doing the best I can in math is important to me.
I try to do the best I can in math.
Trying as hard as I can in math is important to me.

Attainment Value of English .89
For me, being good at English is:
not at all important - very important
Doing better in English than I have done before is important to me.
Trying harder in English than I have tried before is important to me.
Doing the best I can in English is important to me.
I try to do the best I can in English.

Parental Expectancies for English .87
In general I believe that my child is
not at all good at English -
very good at English
How well do you think your child will do
in English next year?

Parental Beliefs about Effort in Math .91
To so well in math, my child has to try
a little - a lot
How much will your child have to try in order to do well in
future math courses?